Clonorchiasis or Paragonimiasis?

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To the Editor: In recent Chinese Medical Journal, Sheng *et al*.[1] reported a case with diffuse parenchymal lung diseases, which was believed to be attributed to the infection of liver fluke *Clonorchis sinensis*. However, after careful check of the available evidences in this case, we think the case was more probably caused by the infection of lung fluke *Paragonimus* spp.

Clonorchiasis is majorly caused by eating raw freshwater fish.[2] Although it has been reported that crayfish could also cause the infection,[3] they are not as important in epidemiology as freshwater fish.[2] Reversely, crayfish as well as crabs are important in transmission of paragonimiasis.[4] Adults of *C. sinensis* parasitize in the biliary system and thus could cause liver and biliary disorders.[2] Adults of *Paragonimus* spp. mainly parasitize in lung and thus could lead to the damage of lung.[4] Based on these two clues (epidemiological history and clinical symptoms), an infection with *Paragonimus* spp. could first be assumed in this case.

Other evidences provided by Sheng *et al*. could not challenge the diagnosis of paragonimiasis. First, immunological test is usually used as auxiliary diagnosis in parasitic diseases due to the cross-reactivity in different parasites. Our team has just evaluated the diagnosis performance of four immunological diagnosis kits for clonorchiasis in China.[5] It is found that among the many different heterologous sera from cases with other parasitic diseases (including schistosomiasis, paragonimiasis, trichinellosis, ascariasis, hookworm disease, and trichuriasis), those from paragonimiasis show most serious cross-reactivity to the antigens of *C. sinensis*.[5] Among ten paragonimiasis cases, the false-positive number in four diagnosis kits of clonorchiasis was three, eight, eight, and nine, respectively.[5] Second, eosinophilia is an important indicator for many parasitic diseases including paragonimiasis.[4] Third, as a broad-spectrum trematocidal and cestocidal drug, praziquantel is also the first choice for treatment of paragonimiasis.[4]

In addition, the authors mentioned that the dot immunogold filtration assay established by Wang *et al.* was applied for the immunological diagnosis in this case.[1] However, it is quite confusing that the method by Wang *et al*. in the reference is used for diagnosis of sparganosis mansoni other than clonorchiasis.[6] Wang *et al*. showed this dot immunogold filtration assay for sparganosis mansoni has light cross-reactivity to clonorchiasis (8%) and serious cross-reactivity to paragonimiasis (52%).[6] Although *Spirometra mansoni* spargana could parasitize in many different human tissues, the parasitizing in lung is infrequent.[7] What's most important is that sparganosis mansoni is usually caused by the ingestion of raw meat of frogs or snakes.[7]

In a word, although it is ambiguous what immunological diagnosis (for clonorchiasis or sparganosis mansoni) was finally used by Sheng *et al*., we still think this case was more probably attributed to paragonimiasis. Adult worms of *Paragonimus* spp. usually parasitize in the lung and discharge their eggs into airways, which eventually come to the outside through sputum.[4] In some cases, ova could also be detected in feces.[4] Thus, it is common that ova of *Paragonimus* spp. was not detected in the feces of this case. However, an examination of sputum should have been attempted in this case after the hospitalization, which probably benefits the drawing of a definitive diagnosis.

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Conflicts of interest

There are no conflicts of interest.

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